

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN THE APPLICATION OF:

APPLICANT : DAMON J. ENNIS

SERIAL NO. : 10/003,186 ART UNIT: 2166

FILED : 10/29/2001 EXAMINER: KHAN B. PHAM

FOR : MECHANISM FOR FACILITATING SUBSCRIPTION IN A  
PUBLISH/SUBSCRIBE COMMUNICATION SYSTEM

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AMENDMENT AND RESPONSE UNDER 37 CFR 1.111

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THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS  
Box NO FEE AMENDMENT  
WASHINGTON, DC 20231

Sir:

Responsive to the Office Action of May 31, 2007, amendment is made as follows:

Please amend the application as follows:

## CLAIM LISTING

Please amend the Claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

*Applicant has made a good faith effort to list each and every prior claim, including any amendments or changes thereto (or status thereof) in this "Listing" section, however, should there be any discrepancy between the previous version of a claim (or status thereof) and the listing not explicitly amended, canceled or otherwise changed by this amendment, only the previous version (and status thereof) should be referred to as the intent of the Applicant.*

### Listing of the Claims:

Claim 1. (Previously Presented)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said network switch to at least a first and second line module of the plurality of line modules, said method comprising:

providing said network switch with a first communication coordinator within said first line modules and a second communication coordinator within said second line modules, said

first and second line modules being connected by at least said second communication network;

providing said first communication coordinator with at least a first application component;

generating a subscription request in said at least one application component;

sending a request based on said subscription request from said first communication coordinator to a control module connected to said plurality of line modules, said request comprising an event expression which may be resolved to match a plurality of different event names;

said control module determining from said request a set of information pertaining to a publisher on a second line module, said set of information comprising a particular event name to which said publisher publishes; and

resolving said set of information within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name;

in response to a determination that said particular event name constitutes a match for said event expression, providing

said set of information pertaining to said subscriber to said second communication coordinator;

in response to said second communication coordinator receiving said set of information pertaining to said subscriber, said second communicator sending an event information published for said event name to said first communication controller; said first line module receiving said event information across said second communication network and determining whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first communication network based on the value of the event information.

Claim 2. (Original)

The method of claim 1, wherein said event expression comprises one or more wildcard indicators.

Claim 3. (Original)

The method of claim 2, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.

Claims 4-6. (Canceled)

Claim 7. (Previously Presented)

The method of claim 1, further comprising:

accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 8. (Original)

The method of claim 7, wherein said first particular event name and said second particular event name are different event names.

Claim 9. (Previously Presented)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said network switch to at least a first and second line module of the plurality of line modules, said method comprising:

providing said network switch with a first communication coordinator within said first line modules and a second communication coordinator within said second line modules, said first and second line modules being connected by at least said second communication network;

providing said first communication coordinator with at least a first application component;

generating a publication announcement in said at least one application component ;

receiving an announcement based on said publication announcement from said first communication coordinator in a

control module connected to said plurality of line modules, said announcement comprising an event expression which may be resolved to match a plurality of different event names;

said control module determining from said announcement a set of information pertaining to a subscriber on a second line module, said set of information comprising a particular event name to which said publisher publishes; and

resolving said set of information within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said particular event name;

in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to said first communication coordinator;

in response to said first communication coordinator receiving said set of information pertaining to said subscriber, said first communicator sending an event information published for said event name to said second communication controller; said second line module receiving said event information across said second communication network and determining whether to execute a predetermined set of program instructions to affect a

change in the communication across the network switch first communication network based on the value of the event information.

Claim 10. (Original)

The method of claim 9, wherein said event expression comprises one or more wildcard indicators.

Claim 11. (Previously Presented)

The method of claim 9, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.

Claim 12. (Original)

The method of claim 9, wherein said event expression comprises a hierarchical namespace.

Claim 13. (Original)

The method of claim 12, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.



Claim 14. (Canceled.)

Claim 15. (Previously Presented)

The method of claim 13 , further comprising:

receiving a second publication announcement indicating a  
desire to publish to a second particular event name;

accessing said set of information pertaining to said  
subscriber;

resolving said event expression to determine whether said  
second particular event name constitutes a match for said event  
expression, thereby determining whether said subscriber should  
receive one or more publications made to said second particular  
event name; and

in response to a determination that said second particular  
event name constitutes a match for said event expression,  
providing said set of information pertaining to said subscriber  
to a sender of said second publication announcement.

Claim 16. (Original)

The method of claim 15, wherein said first particular event  
name and said second particular event name are different event  
names.

Claim 17- 60. (Cancelled)

Claim 61. (Previously Presented)

The method of claim 1, wherein each of said plurality of line modules include a local table in which is stored information pertaining to a particularly one of said plurality of line modules.

Claim 62. (Previously Presented)

The method of claim 1, wherein the control module includes a namespace server that includes a global table containing all local table information from each of said plurality of line modules, the namespace server using information in the global table to coordinate communication throughout the network switch.

Claim 63. (Previously Presented)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a switch for communicating data from trunk lines through the switch to other remote trunk lines across a first communication network, and said network switch has a second underlying communication network separate from said first communication network for connecting outside of said first

communication network at least a switching module in said switch to at least one of a plurality of communication modules in said network switch, said method comprising:

receiving within a communication coordinator within one of the plurality of communication modules publications made to one or more event names receiving a subscription request over the second communication network, said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names, said namespace including an address of at least one component of at least one of said plurality of communication modules;

accessing within a control module connected to said plurality of communication modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name across said second communication network;

in response to determining said subscription request is for said one or more publications made to said particular event

name, sending at least one of said one or more publications to said communication coordinator;

in response to receiving said at least one publication, determining whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first communication network based on the value of said at least one publication.

64. (Previously Presented)

The method of claim 63 wherein said trunk lines are optical fibers.

Claim 65. (Previously Presented)

The method of claim 63 wherein said second communication network is an Ethernet backplane.

Claim 66. (Previously Presented)

The method of claim 64 wherein said trunk lines on said first communication network are optical fibers and wherein said second communication network is an Ethernet backplane.

Claim 67. (Previously Presented)

The method of claim 63 wherein communications across said second communication network combine to form a group selected from an intermediate communication layer and middleware.

Claim 68. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing each one communication module with a local table to store at least publication and subscription information relevant to said one communication module.

Claim 69. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication module connected to said second communication network.

70. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each

communication module connected to said second communication network;

providing said network switch with at least a secondary control module having a global table to store at least the publication and subscription information of said primary communication module to back up said primary control module; and

providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication.

## REMARKS/ARGUMENTS

### Status

Claims 4, 5, 17-21, 23, 24 and 33-48 have been cancelled by the present amendment and no claim has been added.

### Claim History

The Examiner rejected claims 4-5 under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner rejected claims 17-21, 23-24 and 33-48 under 35 U.S.C. § 101 as being non-statutory. The cancellation of claims 4, 5, 17-21, 23-24 and 33-48 by the present amendment serves to render these particular grounds of rejection moot. However, the Applicant reserves the right to further prosecute these claims in a further application.

### Claims Allowed

The indication by the Examiner in the recent Office Action that claims 1-3, 7-13, 15, 16 and 61-70 were allowable over the prior art of record is noted with appreciation.

This amendment is limited to the cancellation of the claims rejected by the Examiner, and thus all of the remaining claims should be allowable over the art of record.

## Summary

Applicants have made a diligent and bona fide effort to answer each and every ground for rejection or objection to the specification including the claims and to place the application in condition for final disposition. Reconsideration and further examination is respectfully requested, and for the foregoing reasons, Applicant respectfully submits that this application is in condition to be passed to issue and such action is earnestly solicited. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Robert N. Blackmon, Applicants' Attorney at 703-684-5633 to satisfactorily conclude the prosecution of this application.

No additional fees should be due with this amendment, however, authorization is granted to charge any additional or deficient fees or credit any overpayment for this filing to Deposit Account 50-0562.

Dated: August 31, 2007

Respectfully submitted,

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